

A STUDY ON PROFILE AND CONSTRAINTS FACED BY NATIONAL HORTICULTURE MISSION BENEFICIARIES IN DAVANAGERE DISTRICT OF KARNATAKA

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ABSTRACT

The study was conducted in three taluks of Davanagere district. Four villages were selected from each taluk, in consultation with In all 72 National Horticulture Mission beneficiaries, spread across 3 taluks from 12 villages were randomly selected. The data was collected through personal interview method, using structured interview schedule. The results reveal that, majority (65.28%) of NHM beneficiaries belonged to old age category, 26.38 percent had education up to high school, equally distributed in case of family size, namely small, medium and big. Horticulture farming experience of NHM beneficiaries reveals that, majority (45.83%) had experience, between 11 to 20 years followed by 23.61 percent less than 10 years, 12.50 percent 21 to 30 years, 9.72 percent 31 to 40 years and only 8.34 percent had experience of above 41 years. Neighbours and NHM personnel are the major sources of information consulted by NHM beneficiaries. Mass media participation of NHM beneficiaries reveals that, majority (58.34%) of them never listen radio, on the other hand 91.66 % of the participants view television. The extension contact of NHM beneficiaries identifies that, Agricultural Assistants (94.43%), Assistant Agricultural Officer (88.88%), Agriculture Officer (88.88%), Horticulture Assistant (94.43%) and Assistant Horticulture Officer (94.43%) were consulted either regularly or occasionally. The extension participation of beneficiaries reveals that majority participated in field visit (100%), group meeting (100%), krishimela (98.62%), trainings (94.45%), farm and home visit (91.66%) and field days (76.38%). The NHM programme in district from 2007 to 2016 has resulted increase in area of banana and arecanut to the extent 134.17% and 69.99%, respectively. Poor follow up of activities under NHM by personnel (54.16 %), subsidies under NHM are less for different activities (52.77 %) and less number of trainings conducted under NHM to impart technical knowledge (41.66 %) are the major constraints expressed by NHM beneficiaries.

KEYWORDS: National Horticulture Mission, Horticulture Farming Experience, Extension Participation, Extension Contact & Constraints

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INTRODUCTION

Davanagere district agro-ecologically comes under a) Northern Dry Zone (Zone III): The zone comprises Harapanahalli Taluk. The major horticulture crops are coconut, mango, pomegranate, onion, chilli and flower crops. b) Central Dry zone (Zone IV): The zone comprises Jagalur, Harihara and Davanagere Taluks and the major horticulture crops are arecanut, coconut, beetlevine, banana, tomato and other vegetables. c) Southern Transitional Zone (Zone VII): This zone comprises Channagiri and Honnali Taluks. The major horticulture crops are arecanut,

coconut, mango, banana and vegetables. In Davangere district, horticulture crops occupies 18.89 per cent of total cultivable area.

National Horticulture Mission (NHM) was launched in 2005-06 as a Centrally Sponsored Scheme to promote holistic growth of the horticulture and improve nutritional security and income support to farm households and other sector through an area based regionally differentiated strategies. All the crops except coconut and medicinal plants are covered under NHM. Coconut Development Board (CDB) is implementing schemes for the development of coconut in the country. Similarly, the National Medicinal Plants Board (NMPB) is implementing the scheme on National Mission of Medicinal Plants. The major activities of NHM includes assistance and support to area expansion of horticulture crops, integrated nutrient management, integrated pest management, processing units, establishment of vermicompost units, bio-digester, shade home, honey bee units, organic farming, seed production, precision farming, drip irrigation, mulching. The major extension activities include trainings, workshops, seminars, exposure visits and Krishimela. Full pledged implementation of NHM programme started in Davanagere district from 2008-09 and in each year crop and activity wise beneficiaries were selected for implementation of specific activities. It is necessary to study the profile of beneficiaries, impact in terms of change in area of horticulture crop and the constraints faced of these beneficiaries. This study was conducted with the following objectives.

Objectives

- To study the profile of the NHM beneficiaries.
- To know the impact of NHM in terms of change in horticulture crop area.
- To study the constraints faced by the NHM beneficiaries.

REVIEW OF LITERATURE

Arulprakash (2004) revealed that friends, neighbours and other beneficiaries were the main source to collect the information regarding SGSY programme by the beneficiaries.

Mankaret *et al* (2013) reported that, 57.50 percent of NHM beneficiaries had 11 to 20 years of farming experience followed by 26.67 percent had up to 10 years and only 15.83 percent had more than 20 years of framing experience.

Ravikumar *et al* (2013) reported that, mango growers had regular access to radio (34.17%), TV (36.67%), news paper (53.33%), farm magazine (16.67%), occasionally access to radio (26.67%), TV (50.00%), news paper (25.83%), farm magazine (6.67%) and never accessed radio (39.17%), TV (13.33%), news paper (20.83%), farm magazine (76.67%).

Ravikumar *et al* (2013) reported that, mango growers regularly participated in Krishmela (67.50%), field day (35.00%), field visits (30.83%), agricultural exhibitions (28.33%), demonstration (21.67%), training (20.83%), extension group meeting (11.67%) and exposure visits (9.17%).

Kudari and Patil (2015), studied the precision farming farmers of North Karnataka and reported that majority (60.53%) of the farmers belonged to middle age group followed by old age (26.32%) and young age (13.15%).

Supriya Patil and ShobhaNaganur (2015) reported that, 45.33 percent of women involved in chilli cultivation had primary level education followed by middle school (34.67%), high school (12.66%) illiterate (6.67%), pre-university (0.67%) education level and none had education of degree and above.

Neha Kulkarni and Jahagirdar (2015) reported that, 58.33 percent of rose grows belonged to medium family size group followed by small (36.66%) and large (5.00%) family size group.

Kudari and Patil (2015) reported that, 32.89 percent of precision farming farmers contacted Agriculture Assistant once in a month, while, 30.26, 36.84 and 31.58 percent contacted Assistant Agriculture officers, Agriculture Scientists and input dealers whenever necessary, respectively.

MATERIALS AND METHODS

The study was based on both primary and secondary data. The primary data was collected from three taluks of Davanagere district namely, Channagiri, Honnali and Haihara. Four villages in each of the three taluks were selected in consultation with personnels, from department of horticulture considering highest activity under NHM. From among these twelve villages, six beneficiaries were selected randomly. Thus, total sample size for the study was seventy two NHM participants. The data was collected using structured interview schedule, through personal interview method. Ex-post facto research design was employed for this study. Kerlinger (1964) defined ex-post facto research is a systematic empirical inquiry, in which the scientist does not have direct control of independent variables because, their manifestations have already occurred or because they are inherently not manipulative. The secondary data was collected from books, reports, thesis, journals and websites.

RESULTS AND DISCUSSIONS

Majority (65.28%) of NHM beneficiaries belonged to old age category (Table 1), this may be due to the fact that land normally in name of the elders in the family and they become the beneficiaries although young people in the family carry out operations. The educational level of NHM beneficiaries (Table 2) reveals that 26.38 percent had education up to high school followed by 22.22 percent illiterates and 16.66 percent primary and pre-university. Beneficiaries were near equally distributed in case of family size, namely small, medium and big (Table 3).

Table 1: Distribution of NHM Beneficiaries Based on Their Age N=72

Category	No.	%
Young (>35 years)	6	8.33
Middle (35-50 years)	19	26.39
Old (51 years)	47	65.28

Table 2: Distribution of NHM Beneficiaries Based on Their Education N=72

Category	No.	%
Illiterates	16	22.22
Primary	12	16.66
Middle School	2	2.81
High School	19	26.38
Pre-University	12	16.66
Degree & Above	11	15.27

Table 3: Distribution of NHM Beneficiaries Based on Family Size N=72

Category	No.	%
Small (>5 member)	22	30.56
Medium (6 to 10 members)	25	34.72
Big (< 11 members)	25	34.72

Table 4 describes horticulture farming experience of NHM beneficiaries. Majority (45.83%) had experience

between 11 to 20 years followed by 23.61 percent less than 10 years, 12.50 percent 21 to 30 years, 9.72 percent 31 to 40 years and only 8.34 percent had experience of above 41 years. Davanagere district is not traditional horticulture crop belt and majority of farmers started growing horticulture crops in recent past, especially the arecanut. Majority of arecanut plantations were less than twenty years old and the situation is same, in case of vegetables and flower crops. Similar findings were reported by Mankar *et al* (2013). In case of sources of information consulted (Table 5) by NHM beneficiaries reveals that, all the beneficiaries consulted neighbours and NHM personnel. Neighbours are easily available everyday next door and they might discuss agricultural problems along with benefits derived from NHM. Personnel from horticulture department who implement NHM programme were consulted at various stages right from selection of beneficiaries, execution, and follow up visits, trainings and other extension activities. Family members and friends and relatives were consulted by 87.50 percent of beneficiaries. Living together, meeting upon family functions and discussions over mobile had facilitated higher consultation. Input dealers were consulted by 86.10 percent of beneficiaries who need to visit these dealers for purchase of agricultural inputs. Input dealers by their experience might advice farmers regarding agricultural problem. Similar findings were reported by Arilprakash (2004).

Mass media participation of NHM beneficiaries (Table 6) reveals that, majority (58.34%) of them never listen radio. The emergence of the television as powerful and widely accepted media, along with other electronic media. On the other hand 91.66 % of the participants view television, this may be the reason why every producer wants to reach their consumer through television and even agro products are advertised. The distinctive advantage of television is that even the illiterates can be reached. Majority of the respondents were not readers of news paper (63.89%) and farm magazines (87.50%). Since all the respondents were from rural areas and accessibility of news paper and farm magazines itself was a problem also illiterates cannot read these print media. Mobile SMS was used by 65.27% of the respondents and extension agencies were utilizing this facility to disseminate agricultural technologies. On the contrary 87.50 % and 70.84 % of the beneficiaries had not accessed internet and Whatsapp, respectively.

Table 4: Distribution of NHM Beneficiaries Based on Their Horticulture Farming Experience N=72

Category	No.	%
>10 years	17	23.61
11 to 20 years	33	45.83
21 to 30 years	9	12.50
31 to 40 years	7	09.72
<41 years	6	08.34

Table 5: Distribution of NHM Beneficiaries Based on Sources of Information Consulted N=72

Sources	Frequency of getting information							
	Most often		Often		Sometimes		Never	
	No.	%	No.	%	No.	%	No.	%
Family members	19	26.38	19	26.38	25	34.74	9	12.50
Neighbours	56	77.79	12	16.66	4	05.55	0	0.00
Friends & relatives	16	22.23	24	33.33	23	31.94	9	12.50
Fellow Beneficiaries	4	05.55	9	12.50	47	65.29	12	16.66
NHM Personnel	12	16.66	45	62.50	15	20.84	0	0.00
Input dealers	17	23.61	28	38.88	17	23.61	10	13.90

Table 6: Distribution of NHM Beneficiaries Based on Mass Media Participation N=72

Media	Frequency of use					
	Regularly		Occasionally		Never	
	No.	%	No.	%	No.	%
Radio	09	12.50	21	29.16	42	58.34
Television	31	43.05	35	48.61	6	8.34
News paper	17	23.61	9	12.50	46	63.89
Farm magazine	0	0.00	9	12.50	61	87.50
Mobile SMS	12	16.66	35	48.61	25	34.73
Internet	0	0.00	9	12.50	61	87.50
Whats App	9	12.50	12	16.66	51	70.84

A perusal of Table 7 indicates the extension contact of the NHM beneficiaries. Agricultural Assistants (94.43%), Assistant Agricultural Officer (88.88%), Agriculture Officer (88.88%), Horticulture Assistant (94.43%) and Assistant Horticulture Officer (94.43%) were consulted either regularly or occasionally. These officers were working in village level through Raitha Sampark Kendras situated at block level and were regularly accessible to the farmers. The taluk level officers namely Assistant Director of Agriculture and Senior Assistant Director of Horticulture were contacted by nearly half the respondents only. Regarding NHM beneficiary's participation in extension activities (Table 8) reveals that, majority were not participated in method demonstration (65.29%) and result demonstrations (79.29%). These type of demonstrations were organised for selected farmers and all of them may not get an opportunity to participate. On the other hand, majority participated in field visit (100%), group meeting (100%), krishimela (98.62%), trainings (94.45%), farm and home visit (91.66%) and field days (76.38%). These extension activities were regularly organised by development departments and Krishi Vigyan Kendra and all the farmers have an opportunity to participate and learn new technologies. Similar findings were reported by Ravikumar *et al* (2013).

The change in area of horticulture crops (Table 9) before (2007-08) and after (2016-17) NHM intervention, in Davanagere district. The area under majority of crops increased in the period of ten years except green chilli, cucumber and coconut. The prices of these crops in the market were the main reason for decrease in area. Among the important crops banana and arecanut found 134.17% and 69.99% increase in area, respectively. Arecanut alone spread to 42884.00 ha., during 2016-17 from 25232.00 ha., during 2007-08. Financial assistance through integrated nutrient management, integrated pest management, drip irrigation and construction of farm pond and bio digester were encouraged farmers to go for arecanut crop. There was 48.13% increase in area of selected horticultural crops between 2007-08 and 2016-17. NHM programme played important role in overall increase in area under horticulture crops. In addition, irrigation facility through canal (58458 ha.), tube well (106716 ha), lift irrigation (15900 ha.), Tanks (1571 ha.) and well (429 ha.) coupled with predominant soil types like red sandy soils, mixed red and black soils and sandy loam soils and climatic condition of Southern Transitional Zone provides congenial environment for horticulture crops.

Table 7: Distribution of NHM Beneficiaries Based on Extension Contact N=72

Media	Frequency of use					
	Regularly		Occasionally		Never	
	No.	%	No.	%	No.	%
Agriculture Assistant	19	26.38	49	68.05	04	05.57
Assistant Agriculture Officer	17	23.61	47	65.27	08	11.12
Agriculture Officer	05	06.94	59	81.94	08	11.12
Assistant Director of Agriculture	04	05.57	23	31.94	45	62.49
Horticulture Assistant	16	22.22	52	72.21	04	05.57

Assistant Horticulture Officer	21	29.16	47	65.27	04	05.57
Table 7: Contd.,						
Senior Assistant Director of Horticulture	02	02.77	28	38.88	42	58.35
Veterinary officer	02	02.77	30	41.66	40	55.57
Scientist (UAS / KVK)	04	05.57	28	38.86	40	55.57

Table 8: Distribution of NHM Beneficiaries Based on Extension Participation N=72

Activities	Frequency of Participation							
	Always		Most of the times		Rarely		Never	
	No	%	No	%	No	%	No	%
Method demonstration	0	0.00	4	5.55	21	29.16	47	65.29
Result demonstration	0	0.00	5	6.94	10	13.88	57	79.18
Farm and home visit	14	19.44	9	12.50	43	59.72	6	8.34
Training programme	4	5.55	40	55.55	24	33.35	4	5.55
Krishimela	7	9.72	40	55.55	24	33.35	1	1.38
Field day	0	0.00	12	16.66	43	59.72	17	23.62
Field visit	24	33.35	33	45.83	15	20.82	0	0.00
Group meeting	23	31.94	21	29.16	28	38.90	0	0.00

Table 9: Change in Area of Horticulture Crops Due to NHM in Davanagere District

Sl. No	Crop	Area (ha)		% Change in Area
		2007-08	2016-17	
1	Mango	2748.00	4376.00	59.24
2	Banana	2167.20	5075.00	134.17
3	Lemon	53.20	166.43	212.84
4	Sapota	851.10	981.31	15.30
5	Pomegranate	194.10	425.00	118.96
6	Papaya	251.00	384.00	52.99
7	Tomato	1914.20	5583.20	191.67
8	Brinjal	549.40	303.04	-81.30
9	Beans	125.80	516.96	311.93
10	Onion	3851.10	5340.30	38.67
11	Green Chilli	1255.20	1204.14	-04.24
12	Bhendi	333.80	439.11	31.55
13	Radish	100.40	214.93	114.07
14	Capsicum	18.80	158.60	743.62
15	Cabbage	27.40	155.80	468.61
16	Khol-Knol	2.00	180.96	8948.00
17	Cluster bean	11.20	135.65	1111.16
18	Bitter guard	55.20	124.50	125.54
19	Ridge gourd	63.00	158.65	151.82
20	Cucumber	223.00	194.44	-14.69
21	Coconut	17321.00	14897.00	-16.27
22	Arecanut	25232.00	42884.00	69.99
23	Pepper	13.00	220.00	1592.31
24	Beetelvine	1068.30	1137.73	6.50
25	Cocoa	81.40	816.00	902.46
26	Marigold	304.40	1047.85	244.23
Total		58815.20	87120.6	48.13

Source: Davanagere District at a Glance, 2016-17

Constraints faced by the beneficiaries were listed in the Table 10, which reveals that, poor follow up of activities under NHM by personnel was expressed by 54.16 % and ranked 1. The reasons may that many times implementing agency

think that distribution of subsidies through the programme is completion of the activities but in fact it is the beginning of the activity. The other reason may be inadequate personnel in horticulture department make it difficult to take up follow up activities. Subsidies under NHM are less for different activities was expressed by 52.77 % and ranked 2nd. Every activity in the programme is implemented in contribution from farmers and a part of the cost was given as subsidy. Less number of trainings conducted under NHM to impart technical knowledge as constraint expressed by 41.66 % of NHM participants. The implementing agency can utilise services of Krishi Vigyan Kendra or Extension Education Unit, to provide skill based training to farmers. Other important constraints expressed by NHM beneficiaries were Lack of transportation and cold storage facilities (38.88 %), Less number of extension activities under NHM for technological knowledge (36.11 %) and Frequent transfer of NHM officials from one place to another is making it difficult to keep continuity in activities (31.94 %).

Table 10: Constraints Faced by NHM Beneficiaries N=72

Constraints	No.	%	Rank
Poor follow up of activities under NHM by personnel	39	54.16	1
Subsidies under NHM less for different activities	38	52.77	2
Less number of trainings conducted under NHM to impart technical knowledge	30	41.66	3
Lack of transportation and cold storage facilities	28	38.88	4
Less number of extension activities under NHM for technological knowledge	26	36.11	5
Frequent transfer of NHM officials from one place to another is making it difficult to keep continuity in activities	23	31.94	6
Heavy post-harvest losses and handling losses	19	26.38	7
Less prices in the market for farmer produce	17	23.61	8
High production costs of horticulture crops	17	23.61	8
Low productivity of horticulture crops	15	20.83	10

CONCLUSIONS

The extension participation and extension contact of beneficiaries plays important role in successful implementation of NHM programme. This facilitates participation of beneficiaries in the programme. Adequate personnel in department of horticulture will ensure not only increases participation of beneficiaries in extension activities and also effective implementation of programme. Identified constraints can be addressed by making necessary changes in the programme.

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